



Missouri
Department of
Natural Resources

**BARBER CREEK
WBID 622**

Recreational Use Attainability Analysis

May 2007

PREPARED FOR:
RFP No: B3Z07134
Water Quality Monitoring & Assessment Section
Water Protection Program
Division of Environmental Quality
MISSOURI DEPARTMENT OF NATURAL RESOURCES
P O Box 176
Jefferson City, MO 65102

PREPARED BY:
MEC WATER RESOURCES, INC.
1123 Wilkes Blvd., Ste. 400
Columbia, MO 65201

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A - Water Body Identification

I. Water Body Information (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	Barber Creek
Missouri Water Body Identification (WBID) Number:	622
8-digit HUC: 10280102	County: Putnam
Upstream Legal Description (from Table H):	Hwy 136
Downstream Legal Description (from Table H):	Mouth
Number of sites evaluated	3
List all sites numbers, listed cnsquantly upstream to downstream:	1, 2, 3

II. Subsegmentation (fill this section out only in cases where subsegmentation is being proposed)

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Upstream Coordinates:		Downstream Coordinates:	
UTM X	Y	UTM X	Y
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± _____ Feet or ± _____ Meters	_____	
PDOP		± _____ Feet or ± _____ Meters	

III. Discharger Facility Information (list all permitted dischargers on the stream)

Discharger Facility Name(s):	Premium Standard Farms	Jack Wells
Discharger Permit Number(s):	MO 0118745	MO 6010639

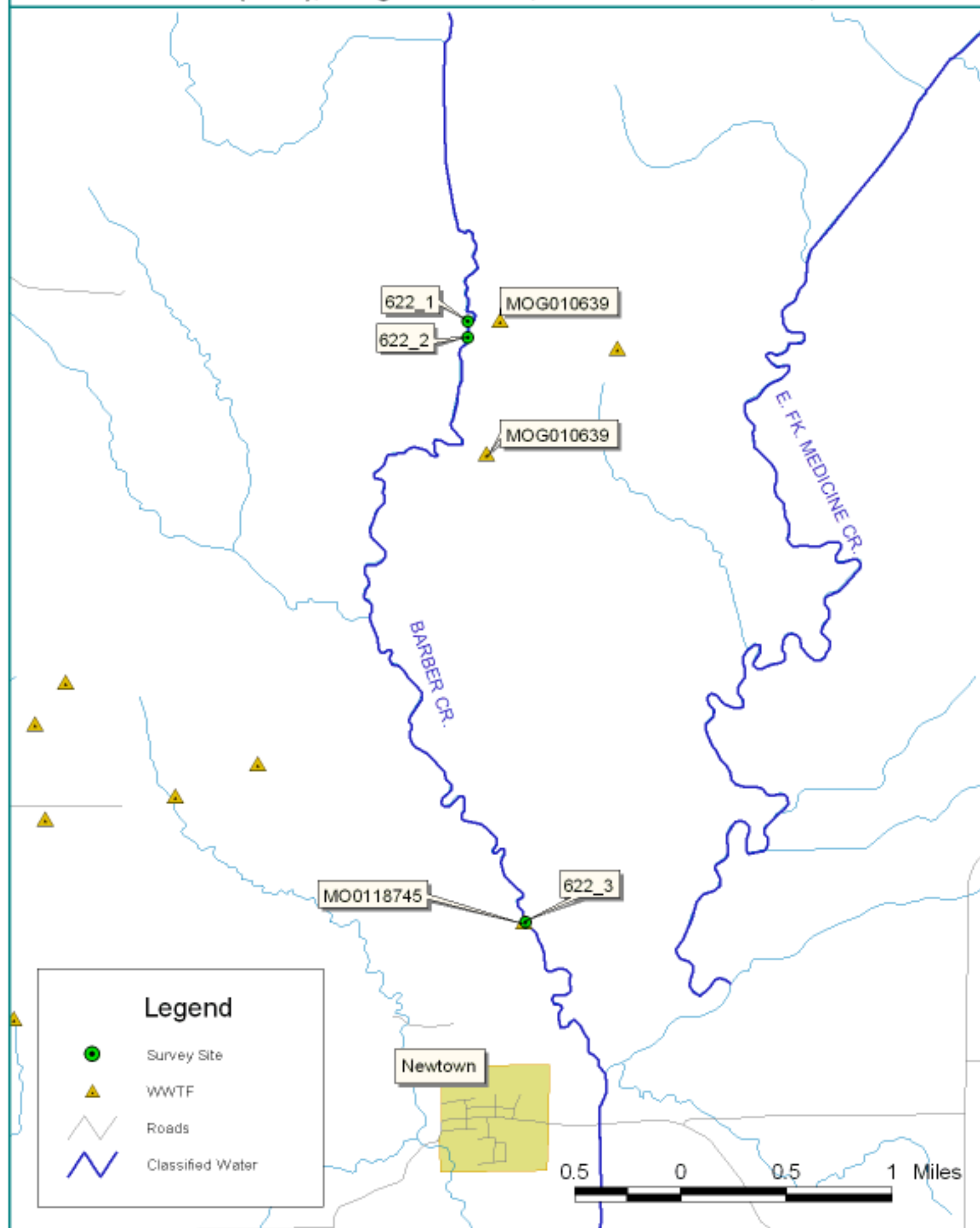
IV. UAA Surveyor (please print legibly)

Name of Surveyor	JENNY HRABIK	Telephone Number:	573-875-7844
Organization/Employer:	AESolutions		
Position:	Field Tech		

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Signed: Jenny Hrabik Date: 24 MAY 2007

Barber Creek (0622), Length = 7.5 mi., Permit # MOG010639, MO0118745



WBID# 622
 Site# 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: <u>22 MAY 2007 0815</u>	Site Location Description (e.g., road crossing): <u>downstream of 208th St. Road Crossing</u>
Personnel (Data Collectors): <u>JRH & TAH</u>	
Current Weather Conditions: <u>mostly cloudy 65°F</u>	Facility Name: <u>JACK WELLS</u>
	Permit Number: <u>M06010639</u>
Weather Conditions for Past 10 days: <u>1.3" rain</u>	
Drought Conditions?: No drought <input type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input checked="" type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: <u>15T 0471485</u>		Y: <u>4475618</u>	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± <u>21</u> Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)
<u>622-1-1018</u>	<u>upstream</u>		
<u>622-1-1019</u>	<u>downstream</u>		
<u>622-1-1020</u>	<u>slope downstream of bridge</u>		
<u>622-1-1021</u>	<u>Bridge (208th St)</u>		

Uses Observed*: (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments: <u>pic# 622-1-1020</u>				

WBID# 622
Site# 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (must be completed for each site)

Indications of Human Use*: (attach photos)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	
Comments: <u>pic # 622-1-1021</u>					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	<u>60</u> % Sand	<u>20</u> % Silt	<u>20</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

none

Water Characteristics*: (Mark all that apply.)

ODOR:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
COLOR:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown (pools)</u>
BOTTOM DEPOSIT:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments to this form.

starting at T4 through T4RH

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Jenny Hrabec Date of Survey: 22 MAY 2007

Organization: AES / MEC water Position: Field Tech

MEC Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0622</u>	Site #: <u>622-1</u> (WBID_Site#)	Dissolved Oxygen
Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water)		Date: <u>22 MAY 2007</u> Time: <u>0815</u>
GPS Location (taken at transect 1): UTM X: <u>0471485</u> UTM Y: <u>4475618</u>		Dissolved Oxygen: <u>8.53</u> (mg/L)
Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 21</u> (feet)		Dissolved Oxygen: <u>88.8</u> (% sat)
Average Stream Width: <u>4.0</u> (meters)	Length of Survey Segment: <u>150</u> (meters) (20x average stream width)	Specific Cond: <u>391.0</u> (µS/cm)
Field Staff: <u>JRH & TAH</u>		Water Temperature: <u>17.8</u> (°C)

Transect Cross-Section

Measurement	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)
1	0.3	0.1	0	<0.1	0	<0.1	0.1	0.1	1.5	0.1	0.3	0.1	0.5	0.1	0.1	0.1	0	0.2	0.4	0.1	0.1	0.1
2	0.4		0.3		0.5		0.2	0.2	1.7		0.5	0.1	0.8	0.1	0.4	<0.1	0.3	0.3	0.7	0.2	0.5	0.1
3	0.5		0.6		1.0		0.3	0.2	1.9		0.7	0.2	1.1	0.2	0.7	<0.1	0.6	0.2	1.0	0.2	0.9	0.2
4	0.6		0.9		1.5		0.4	0.2	2.1		0.9	0.2	1.4	0.1	1.0	<0.1	0.9	0.2	1.3	0.3	1.3	0.2
5	0.7		1.2		2.0		0.5	0.1	2.3		1.1	0.1	1.7		1.3	0.1	1.2	0.2	1.6	0.3	1.7	0.3
6	0.8		1.5		2.5		0.6	0.1	2.5		1.3		2.0		1.6	0.1	1.5	0.2	1.9	0.2	2.1	0.3
7	0.9		1.8		3.0		0.7	0.1	2.7		1.5		2.3		1.9	0.2	1.8	0.2	2.2	0.2	2.5	0.2
8	1.0		2.1		3.5		0.8	0.1	2.9		1.7		2.6		2.2	0.2	2.1	0.2	2.5	0.2	2.9	0.2
9	1.1		2.4		4.0		0.9	0.1	3.1		1.9		2.9		2.5	0.2	2.4	0.1	2.8	0.2	3.3	0.2
10	1.2		2.7		4.5		1.0	0.1	3.3	0.2	2.1		3.2		2.8	0.1	2.7	0.1	3.1	0.1	3.7	0.2
11	1.3		3.0		5.0	0.1	1.1	0.1	3.5	0.1	2.3		3.5		3.1	0.1	3.0	0.1	3.4	0.1	4.1	0.1
12	1.6	0	3.7	0	5.3	0	4.2	0	4.5	0	4.7	0	3.8	0	4.1	0	3.2	0	4.4	0	4.4	0
Feature Type (riffle, run, or pool)	run		run		run		run		run		run		pool		pool		pool		pool		pool	

Notes: Transects will be measured beginning on left descending bank and finishing on right descending bank.

GPS location corresponds to Transect 01. Transects ordered in upstream to downstream order.

Transects in order of up to downstream.

Mark dry depth measurements as 0; measurements less than 0.1m as <0.1; and greater than 1m as >1

Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: Jennifer Tharion Date: 22 MAY 2007
 REC 5-24-07
 REC 5/25/07

WBID# 622
Site# 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: <u>22 MAY 2007</u>	Site Location Description (e.g., road crossing): <u>200 m downstream of 208th St.</u>
Personnel (Data Collectors): <u>JRH + TAH</u>	<u>Road crossing</u>
Current Weather Conditions: <u>mostly cloudy 65°F</u>	Facility Name: <u>JACK WELLS</u>
Weather Conditions for Past 10 days: <u>1.3" rain</u>	Permit Number: <u>M00010639</u>
Drought Conditions?: No drought <input type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input checked="" type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: <u>15T 0471481</u>		Y: <u>4475499</u>	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± <u>17</u> Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID_Site#_##)	Photo Purpose and Direction (upstream, downstream, other)
<u>622-2-1022</u>	<u>upstream</u>		
<u>622-2-1023</u>	<u>downstream</u>		
<u>622-2-1024</u>	<u>slope (left bank at T1)</u>		

Uses Observed*: (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments: <u>pic#622-2-1024</u>				

WBID#
Site#

622
2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Indications of Human Use*: (attach photos)

<input type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	
Comments:					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

% Cobble	% Gravel	20 % Sand	20 % Silt	60 % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

~5% of site has aquatic vegetation (no algae)

Water Characteristics*: (Mark all that apply.)

ODOR:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Other: cattle waste
COLOR:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: Brown (pools)
BOTTOM DEPOSIT:	<input checked="" type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments to this form. ① T4 through T8

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Jenny Drabek Date of Survey: 22 MAY 2007

Organization: AES/ MEC water Position: Field Tech.

Waterbody ID: <u>622</u>		Site #: <u>622-2</u> (WBID_Site#)		Dissolved Oxygen	
Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water)		GPS Location (taken at transect 1): UTM X: <u>0471481</u> UTM Y: <u>4475499</u>		Date: <u>22 MAY 2007</u>	Time: <u>0855</u>
Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>17</u> (feet)				Dissolved Oxygen: <u>8.42</u> (mg/L)	
Average Stream Width: <u>5.2</u> (meters)		Length of Survey Segment: <u>150</u> (meters) (20x average stream width)		Dissolved Oxygen: <u>88.7</u> (% sat)	
Field Staff: <u>JRH+TAH</u>				Specific Cond: <u>396.2</u> ($\mu\text{S/cm}$)	
				Water Temperature: <u>17.8</u> ($^{\circ}\text{C}$)	

[illegible]

Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed: Jenny Hrabos Date: 22 MAY 2007
 a/c 5-24-07 OK 5/20/07

WBID# 622
 Site# 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Date & Time: <u>22 MAY 2007 1000</u>	Site Location Description (e.g., road crossing): <u>139</u>
Personnel (Data Collectors): <u>JRH & TAH</u>	<u>Downstream of Hwy 139 Bridge</u>
Current Weather Conditions: <u>windy overcast 65°F</u>	Facility Name: <u>PREMIUM STANDARD FARMS</u>
	Permit Number: <u>MO 0118745</u>
Weather Conditions for Past 10 days: <u>1.3" rain</u>	
Drought Conditions?: No drought <input type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input checked="" type="checkbox"/>	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site GPS Coordinates: UTM X: <u>15T 0471920</u>		Y: <u>4471062</u>	
HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)			
Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			
HORIZONTAL ACCURACY ESTIMATE			
GPS Data Quality		Interpolation Data Quality	
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____	
EPE	± <u>18</u> Feet or ± _____ Meters	± _____ Feet or ± _____ Meters	
PDOP			

Photos:

Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)	Photo ID# (WBID Site# ##)	Photo Purpose and Direction (upstream, downstream, other)
<u>622-3-1025</u>	<u>upstream</u>		
<u>622-3-1026</u>	<u>downstream</u>		
<u>622-3-1027</u>	<u>slope (rt. bank downstream of Bridge)</u>		
<u>622-3-1028</u>	<u>Bridge (Hwy 139)</u>		

Uses Observed*: (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Surrounding Conditions*: (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Comments: <u>pic # 622-3-1027</u>				

WBID#
Site#

622
3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(must be completed for each site)

Indications of Human Use*: (attach photos)

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Rope swings	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Other:	
Comments: pic # 622-3-1028					

Stream Morphology:

Upstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Transect (#)	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE						
RUN						
POOL						

Downstream View's Physical Descriptions: Is there any water present at this view? ☐ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☐ No

Select one of the following channel features:

Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
RIFFLE					
RUN					
POOL					

Substrate*: (These values should add up to 100%.)

<input type="checkbox"/> % Cobble	9	<input type="checkbox"/> % Gravel	40	<input type="checkbox"/> % Sand	20	<input type="checkbox"/> % Silt	30	<input type="checkbox"/> % Mud/Clay	<input type="checkbox"/> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

abundant algae in T1 & T2

Water Characteristics*: (Mark all that apply.)

ODOR:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
COLOR:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: Brown (pools)
BOTTOM DEPOSIT:	<input checked="" type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
WATER SURFACE DEPOSITION:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach any additional comments to this form. T4 & T5 only

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Surveyor's Signature: Jenny Thibault Date of Survey: 22 MAY 2007

Organization: AES/ MOC water Position: Field Tech.

Waterbody ID: <u>622</u> Site #: <u>622-3</u> (WBID_Site#) Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>0471920</u> UTM Y: <u>4471062</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 18</u> (feet) Average Stream Width: <u>5.1</u> (meters) Length of Survey Segment: <u>150</u> (meters) (20x average stream width) Field Staff: <u>JRH+TAH</u>		Dissolved Oxygen Date: <u>22 MAY 2007</u> Time: <u>1000</u> Dissolved Oxygen: <u>8.42</u> (mg/L) Dissolved Oxygen: <u>92.5</u> (% sat) Specific Cond: <u>265.8</u> (µS/cm) Water Temperature: <u>19.7</u> (°C)	
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Measurement	01		02		03		04		05		06		07		08		09		10		11		
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	
1	1.2	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.5	0.1	0	0.2	0.5	0.1	0.6	0.1	0.1	0.1	0.1	0.1	0.1
2	1.4	0.1	0.3	0.2	0.9	0.2	1.0	>1	1.0	0.4	0.7	0.2	0.5	0.4	0.7	0.1	0.9	0.2	0.5	0.2	0.4	0.1	
3	1.6	0.2	0.5	0.2	1.5	0.4	1.9	>1	1.9	>1	0.9	0.2	1.0	0.3	0.9	0.2	1.2	0.2	0.9	0.2	0.7	0.1	
4	1.8	0.2	0.7	0.3	2.1	0.4	2.8	>1	2.8	1	1.1	0.3	1.5	0.4	1.1	0.2	1.5	0.2	1.3	0.2	1.0	0.5	
5	2.0	0.2	0.9	0.3	2.7	0.5	3.7	1	3.7	1	1.3	0.3	2.0	0.4	1.3	0.2	1.8	0.3	1.7	0.2	1.3	0.4	
6	2.2	0.2	1.1	0.2	3.3	0.6	4.6	1	4.6	1	1.5	0.3	2.5	0.3	1.5	0.2	2.1	0.3	2.1	0.2	1.6	0.3	
7	2.4	0.2	1.3	0.2	3.9	0.7	5.5	1	5.5	1	1.7	0.3	3.0	0.3	1.7	0.2	2.4	0.3	2.5	0.2	1.9	0.2	
8	2.6	0.2	1.5	0.2	4.5	0.9	6.4	1	6.4	1	1.9	0.3	3.5	0.2	1.9	0.2	2.7	0.3	2.9	0.1	2.2	0.1	
9	2.8	0.1	1.7	0.2	5.1	0.6	7.3	1	7.3	1	2.1	0.2	4.0	0.2	2.1	0.1	3.0	0.2	3.3	<0.1	2.5	0.1	
10	3.0	0.1	1.9	0.1	5.7	0.4	8.2	0.9	8.2	0.6	2.3	0.1	4.5	0.1	2.3	0.1	3.3	0.2	3.7	<0.1	2.8	0.1	
11	3.2	0.1	2.1	0.1	6.3	0.1	9.1	0.1	9.1	0.1	2.5	0.1	5.0	0.1	2.5	0.1	3.6	0.1	4.1	0.1	3.1	0.1	
12	3.7	0	2.6	0	6.4	0	10.0	0	10.0	0	2.9	0	5.6	0	3.1	0	3.7	0	4.7	0	3.3	0	
Feature Type (riffle, run, or pool)	riffle		riffle		run		pool		pool		run		run		run		run		pool		run		

Measurement 1 depth = 0.1m (unless depth is insufficient); Measurement 11 depth = 0.1m (unless depth is insufficient); Measurement 12 distance = entire wetted width distance and depth = 0m.

Signed

Date _____

re: 22 MAY 2007

WBID# 622



Site# 1 Photo ID# 622-1-1018, Upstream



Site# 1 Photo ID# 622-1-1019, Downstream



Site# 1 Photo ID# 622-1-1020, Slope downstream



Site# 1 Photo ID# 622-1-1021, Bridge

WBID# 622



Site# 2 Photo ID# 622-2-1022, Upstream



Site# 2 Photo ID# 622-2-1023, Downstream



Site# 2 Photo ID# 622-2-1024, Slope

WBID# 622



Site# 3 Photo ID# 622-3-1025, Upstream



Site# 3 Photo ID# 622-3-1026, Downstream



Site# 3 Photo ID# 622-3-1027, Slope



Site# 3 Photo ID# 622-3-1028, Bridge